

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A gas conserving regulator comprising:
 - a delivery valve assembly comprising a delivery outlet and a delivery valve member ~~engageable with the delivery outlet~~ moveable within the delivery valve assembly between a closed position and an open position for controlling flow of a gas through the delivery outlet;
 - a timing gas chamber for receiving gas, gas pressure within the timing gas chamber controlling the ~~operation~~ movement of the delivery valve member; and
 - a user adjustment system ~~having an adjustment member that can be selectively positioned by a user~~ for selectively controlling the amount of time required for the gas to sufficiently fill the timing gas chamber to control the length of time that the delivery valve assembly member is in the opened position.
2. (Withdrawn) The gas regulator of Claim 1 in which the adjustment system includes an orifice member having more than one orifice, each of a different size, which can be selectively positioned for selecting the flow rate of the gas into the timing gas chamber.
3. (Previously Amended) A gas regulator comprising:
 - a delivery valve assembly comprising a delivery outlet and a delivery valve member ~~engageable with the delivery outlet~~ moveable within the delivery valve assembly between a closed position and an open position for controlling flow of a gas through the delivery outlet;
 - a timing gas chamber for receiving gas, gas pressure within the timing gas chamber controlling the ~~operation~~ movement of the delivery valve member; and
 - an adjustment system for controlling the amount of time required for the gas to sufficiently fill the timing gas chamber to control the length of time that the delivery valve assembly member is in the opened position, the adjustment system

- including a volume adjustment device ~~having an adjustment member that can be selectively positioned by a user~~ for selectively adjusting the volume of the timing gas chamber.
4. (Previously Amended) The gas regulator of Claim 3 in which the volume adjustment device includes an adjustable piston.
 5. (Cancelled) A gas regulator comprising:
 - a gas reservoir system for storing deliverable gas, the gas reservoir system having a gas containing capacity;
 - a capacity adjustment system for adjusting the capacity of the gas reservoir system; and
 - a delivery valve assembly comprising a delivery outlet and a delivery valve member engageable with the delivery outlet for controlling the flow of gas from the gas reservoir system.
 6. (Cancelled) The gas regulator of Claim 5 in which the gas reservoir system includes a plurality of reservoirs.
 7. (Cancelled) The gas regulator of Claim 6 in which the capacity adjustment system allows selected reservoirs to be connectable in communication with each other for selecting the capacity of the gas reservoir system.
 8. (Cancelled) The gas regulator of Claim 7 in which the capacity adjustment system includes a movable plate having a series of orifices therethrough, whereby the capacity of the gas reservoir system can be selected by selecting the position of the movable plate.
 9. (Cancelled) The gas regulator of Claim 7 in which a tail flow passes through the selected reservoirs.

10. (Cancelled) The gas regulator of Claim 9 further comprising a continuous flow circuit that can be selected to provide additional flow to the tail flow.
11. (Currently Amended) A method of regulating gas with a gas regulator comprising:
 - providing a delivery valve assembly comprising a delivery outlet and a delivery valve member ~~engageable with the delivery outlet~~ moveable within the delivery valve assembly between a closed position and an open position for controlling flow of a gas through the delivery outlet;
 - receiving gas in a timing gas chamber, gas pressure within the timing gas chamber controlling the ~~operation~~ movement of the delivery valve member; and
 - selectively controlling the amount of time required for the gas to sufficiently fill the timing gas chamber ~~with selective positioning of an adjustment member by a user~~ of a user adjustment system to control the length of time that the delivery valve assembly member is in the opened position.
12. (Withdrawn) The method of Claim 11 in which the adjustment system includes an orifice member having more than one orifice, each of a different size, the method further comprising selectively positioning an orifice for selecting the flow rate of the gas into the timing gas chamber.
13. (Currently Amended) A method of regulating gas with a gas regulator comprising:
 - providing a delivery valve assembly comprising a delivery outlet and a delivery valve member ~~engageable with the delivery outlet~~ moveable within the delivery valve assembly between a closed position and an open position for controlling flow of a gas through the delivery outlet;
 - receiving gas in a timing gas chamber, gas pressure within the timing gas chamber controlling the ~~operation~~ movement of the delivery valve member; and

controlling the amount of time required for the gas to sufficiently fill the timing gas chamber with an adjustment system to control the length of time that the delivery valve assembly member is in the opened position, the adjustment system including a volume adjustment device ~~having an adjustment member that can be selectively positioned by a user~~ for selectively adjusting the volume of the timing gas chamber.

14. (Original) The method of Claim 13 further comprising providing the volume adjustment device with an adjustable piston.
15. (Cancelled) A method of regulating gas with a gas regulator comprising:
 - storing deliverable gas in a gas reservoir system, the gas reservoir system having a gas containing capacity;
 - adjusting the capacity of the gas reservoir system with a capacity adjustment system; and
 - controlling the flow of gas from the gas reservoir system with a delivery valve assembly comprising a delivery outlet and a delivery valve member engageable with the delivery outlet.
16. (Cancelled) The method of Claim 15 further comprising providing the gas reservoir system with a plurality of reservoirs.
17. (Cancelled) The method of Claim 16 further comprising selecting the capacity of the gas reservoir system with the capacity adjustment system which allows selected reservoirs to be connectable in communication with each other.
18. (Cancelled) The method of Claim 17 in which the capacity adjustment system includes a moveable plate having a series of orifices therethrough, the method further comprising selecting the capacity of the gas reservoir system by selecting the position of the moveable plate.

19. (Cancelled) The method of claim 17 further comprising providing a tail flow that passes through the selected reservoirs.
20. (Cancelled) The method of Claim 19 further comprising selecting a continuous flow circuit for providing additional flow to the tail flow.
21. (New) The gas regulator of Claim 1 wherein the user adjustment system includes an adjustment member that can be selectively positioned by a user.
22. (New) The gas regulator of Claim 1 wherein the delivery valve member is a flexible membrane.
23. (New) The gas regulator of Claim 3 wherein the volume adjustment device includes an adjustment member that can be selectively positioned by a user.
24. (New) The gas regulator of Claim 3 in which the adjustment system includes an orifice member having more than one orifice, each of a different size, which can be selectively positioned for selecting the flow rate of the gas into the timing gas chamber.
25. (New) The device of Claim 3 wherein the delivery valve member is a flexible membrane.
26. (New) The method of Claim 11 wherein the user adjustment system includes an adjustment member that can be selectively positioned by a user.
27. (New) The method of Claim 26 wherein the adjustment member is an adjustable piston.
28. (New) The method of Claim 11 wherein the delivery valve member is a flexible membrane.

29. (New) The method of Claim 13 wherein the volume adjustment device includes an adjustment member that can be selectively positioned by a user.
30. (New) The gas regulator of Claim 13 in which the adjustment system includes an orifice member having more than one orifice, each of a different size, which can be selectively positioned for selecting the flow rate of the gas into the timing gas chamber.
31. (New) The method of Claim 13 wherein the delivery valve member is a flexible membrane.
32. (New) A medical gas conserving device for delivery a fixed volume of medical gas to a patient in response to an inhalation, comprising:
- a timing gas chamber for storing a user-adjustable volume of gas up to a first pressure;
 - a vent to exhaust the gas stored in the timing gas chamber to atmosphere;
 - a pilot valve disposed between the timing gas chamber and the vent, the pilot valve biased in a closed position to inhibit gas flow from the timing gas chamber to the vent, the pilot valve in gas communication with a patient via a passage such that a vacuum in the passage opens the pilot valve to allow gas flow from the timing gas chamber to the vent; and
 - a slave valve disposed between a regulated supply of medical gas and a delivery passage to the patient, the slave valve in gas communication with the timing gas chamber such that when gas in the timing gas chamber is at the first pressure the slave valve is in a closed position to inhibit the flow of medical gas from the regulated supply to the delivery passage, and when gas in the timing gas chamber is below the first pressure the slave valve is in an opened position to allow medical gas to flow from the regulated supply to the delivery passage.

33. (New) The device of Claim 32 wherein the timing gas chamber includes a moveable piston acting as a wall of the timing gas chamber, the moveable piston being positionable by a user to adjust the volume of the timing gas chamber.
34. (New) The device of Claim 32 wherein the first pressure is determined by the area of an orifice.
35. (New) The device of Claim 34 wherein the orifice is selected from a plurality of orifices, each orifice having a respective area.
36. (New) The device of Claim 32 wherein the delivery valve member is a flexible membrane.
37. (New) A method of manufacturing a medical gas conserving device for delivery a fixed volume of medical gas to a patient in response to an inhalation, comprising:
 - forming a timing gas chamber for storing a user-adjustable volume of gas up to a first pressure;
 - forming a vent to exhaust the gas stored in the timing gas chamber to atmosphere;
 - disposing a pilot valve between the timing gas chamber and the vent, the pilot valve being biased in a closed position to inhibit gas flow from the timing gas chamber to the vent, the pilot valve in gas communication with a patient passage such that a vacuum in the passage opens the pilot valve to allow gas flow from the timing gas chamber to the vent; and
 - disposing a slave valve between a regulated supply of medical gas and a delivery passage to the patient, the slave valve in gas communication with the timing gas chamber such that when gas in the timing gas chamber is at the first pressure the slave valve is in a closed position to inhibit the flow of medical gas from the regulated supply to the delivery passage, and when gas in the timing gas chamber is below the first pressure the slave valve is in an opened position to allow medical gas to flow from the regulated supply to the delivery passage.

38. (New) The method of Claim 37 wherein forming the timing gas chamber includes forming a moveable piston to act as a wall of the timing gas chamber, the moveable piston being positionable by a user to adjust the volume of the timing gas chamber.
39. (New) The method of Claim 37 further comprising forming an orifice having an area dimensioned to provide the first pressure.
40. (New) The method of Claim 39 wherein forming the orifice comprises fabricating a plurality of selectable orifices, each orifice having a respective area.
41. (New) The method of Claim 37 wherein the delivery valve member is a flexible membrane.